Application No. 09/828,621 Filing Date: April 6, 2001

Applicants: John D. Newbold et al.

For: NOZZLE FOR PRECISION LIQUID DISPENSING AND METHOD OF MAKING

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WHAT IS CLAIMED IS: . 1 1.) (Original): A nozzle for delivering a measured quantity of viscous liquid comprising: 2 3 a) an opening defined by a perimeter and a cylindrically-shaped barrel wall extending 4 from said perimeter downward to a break point defined by a circle spaced-apart 5 from said opening; 6 7 b) means for connecting said barrel wall of said nozzle to a reservoir from which a 8 viscous liquid is transferable to said nozzle; 9 10 c) a cone-shaped wall extending downward from said circular break point and then 11 inward there from to a circular exit opening; and, 12 13 d) a straight, small-diameter exit tube, of uniform diameter, extending from said 14 circular exit opening to a circular exit aperture for dispensing the liquid from said 15 nozzle; 16 17 e) wherein there is a controlled ratio of the internal diameter of said exit tube and the 18 wall thickness of said exit tube. 19 20 2.) (Canceled) 21 22 3.) (Canceled) 23 24 25 26

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.1	4.) (Currently amended): The nozzle for delivering a measured quantity of viscous liquid of
2	Claim 1 wherein the ratio of the internal diameter of said exit tube to the wall thickness of
3	said exit tube exceeds [[7.5]] .75.
4	
5	5.) (Original): The nozzle for delivering a measured quantity of viscous liquid of Claim 1
6	wherein said opening is circular and said horizontal perimeter is about 25 mm in diameter.
7	
8	6.) (Canceled)
9	
10	7.) (Currently amended): The nozzle for delivering a measured quantity of viscous liquid of
11	[[Claim 6]] Claim 1 wherein said cone-shaped wall extending downward from said circular
12	break point and then inward there from to a circular exit opening has a wall convergence
13	between about 5° and about 20°.
14	
15	8.) (Currently amended): The nozzle for delivering a measured quantity of viscous liquid of
16	[[Claim 6]] Claim 1 wherein said cone-shaped wall extending downward from said circular
17	break point and then inward there from to a circular exit opening has a wall convergence of
18	about 10°.
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20	9.) (Canceled)
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22	10.) (Canceled)
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24	11.) (Currently amended): The nozzle for delivering a measured quantity of viscous liquid of
25	[[Claim 6]] Claim 1 wherein said flare wall extends inward from said perimeter about [[5
26	num.]] <u>5 mm.</u>
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1	12.) (Canceled)
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3	13.) (Currently amended): The nozzle for delivering a measured quantity of viscous liquid of
4	[[Claim 6]] Claim 1 wherein said cylindrically-shaped barrel wall extends downward from
5	said flare wall at an angle of about 2° with the vertical.
7	14.) (Canceled)
8	
9	15.) (Currently amended): The nozzle for delivering a measured quantity of viscous liquid of
10	[[Claim 6]] Claim1 wherein said cone-shaped wall extends downward from said circular
11	break point at an angle of about 15° with the vertical.
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13	16.) (Canceled)
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15	17.) (Canceled)
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17	18.) (Canceled)
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19	19.) (Canceled)
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21	20.) (Canceled)
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